DOCUMENT RESUME

ED 401 054 RC 020 633

AUTHOR	Jolly, Deborah V.; Deloney, Pat
TITLE	Integrating Rural School and Community Development: An Initial Examination.
INSTITUTION	Southwest Educational Development Lab., Austin, Tex.
PUB DATE	Oct 96
NOTE	37p.; Paper presented at the Annual Conference of the National Rural Education Association (San Antonio, TX, October 11-14, 1996).
PUB TYPE	Speeches/Conference Papers (150) -- Reports - Descriptive (141) -- Information Analyses (070)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Administrator Attitudes; *Community Development; Computer Uses in Education; *Distance Education; Elementary Secondary Education; Information Technology; Inservice Teacher Education; *Networks; Partnerships in Education; Rural Development; *Rural Schools; *School Community Relationship; Teacher Attitudes; Telecommunications
IDENTIFIERS	Community Viability; *Functional Community; *Social Capital; Texas

ABSTRACT

Research on social capital and functional communities provides much needed information on the relationship between rural schools and their communities, and its impact on community viability. Schools are critical to the social and economic viability of rural communities; research suggests that social capital in rural areas has decreased disproportionately during recent decades, and that many small rural communities have failed to remain viable after losing their school. Social capital and functional communities create a symbiotic relationship between a school and a community; thus, integrating school and community development efforts should produce a synergistic effect that enhances the viability of both. With new information technologies, rural schools and communities can access the same information and opportunities as other schools and maintain their autonomy and viability. After a discussion of seven factors that affect change in rural schools, behaviors of successful rural leaders, and the application of social capital theory to rural schools and communities, the Infonet Project is described. Eight poor rural school districts in central Texas joined with Central Texas Telephone Cooperative of Goldthwaite, the Texas Rural Cooperative, and Central Texas Wireless to provide wireless TV service to each school and an interactive distance learning network linking the eight districts. The interactive classrooms have been used for staff and board training, community meetings, and continuing education classes. Surveys of district superintendents and staff revealed superintendents' role in supporting implementation of Infonet and the concerns of staff about the new technology and its impact on them personally. Contains 23 references. (TD)

ED 401 054

Integrating Rural School and Community Development: An Initial Examination

a paper for the

National Rural Education Association (NREA)
San Antonio, Texas
October 11-14, 1996

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Joyce Pollard
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Deborah V. Jolly
Pat Deloney
Southwest Educational Development Laboratory
211 East Seventh Street
Austin, Texas 78701

Max Gordon
Brady ISD
1000 South Wall Street
Brady, Texas 76825

Grayson Wetzel
Goldthwaite ISD
P.O. Box 608
Goldthwaite, Texas 78764

RC020633

BEST COPY AVAILABLE

Integrating Rural School and Community Development: An Initial Examination

Introduction

A child's performance in school is a result of the interaction of school-provided resources and the strengths and attitudes the student brings into the school from the family and the community. The field of sociology has produced two concepts that can help educators understand what a student brings from the community: (1) social capital and (2) the functional community. The concept of *social capital* refers to resources that reside in the social structure of the community itself: the norms, the social networks, the relationships between adults and children. Social capital can be viewed as existing within the family as well as outside the family and in the community. A *functional community* is one in which adults are interested in and influential in the activities of children other than their own (Coleman & Hoffer, 1987).

Background

Social Capital

Within the family, social capital pertains to the interactions a child has with responsible, caring adults and the positive support provided by those adults. Researchers use proxy measures for family social capital such as family income, number of children in home, educational attainment of parents, and presence or absence of parents. Although correlational studies suggest a positive relationship between factors such as family income and educational attainment and school performance (e.g., Ferguson,1991), this is not always the case. For example, many Asian families, despite low human capital (e.g., income, years of education) have been found to provide high levels of social interaction and support

for their children within the home *(high social capital),* that has been related to high performance in school (Caplan, Choy, & Whitmore, 1992; Coleman, 1988).

Changing social conditions such as the increase in the number of single-parent homes, families in which both parents have careers outside the home, and increased population mobility resulting in the loss of extended family support have led to significant decreases in social capital in all kinds and sizes of communities. However, Coleman and Hoffer (1987) believe that children who reside in central cities and impoverished rural areas are most likely to be more adversely affected by the lack of social capital. Demographic studies of rural families provide evidence that many of the conditions that have affected urban families such as absent parents, low income, and loss of extended families have grown disproportionately in rural areas during the last 15 years (Huang & Howley, 1991; Mazie, 1990; Hobbs, 1989). Furthermore, during the same period of time, there has been an out migration from rural areas of younger, better-educated individuals (Huang & Howley, 1991). Therefore, there is strong reason to believe that family and community social capital in many rural areas in the region has decreased during the last decades.

According to Coleman (1991), "The social capital of the community can to a considerable extent offset its absence in particular families in the community." This happens through community adults taking actions such as showing sympathetic interest in other children, engaging in activities such as volunteer youth groups, and enforcing certain norms and expectations. When such a community of adults forms around a school, Coleman and Hoffer (1987) call this a functional community. They observed and documented the phenomenon in parochial schools and found significant positive effects of such a functional community (e.g., reduced dropout rates, improved performance). Since that time, other studies have replicated the findings of Coleman and Hoffer (Smith,

Beaulieu, & Israel, 1990; Lichter, Cornwell, & Eggebeen, 1993). The hopeful implication of this research is the belief that communities and their schools can directly address the issue of improving the social capital of a community surrounding the school through planned strategies supported through technology, which then should result in improved student performance.

The literature on social capital and functional communities provides a solid research base on the impact of social capital and functional communities on school effectiveness. On the other hand, literature addressing school closings for reasons such as consolidation suggests that many small rural communities have failed to remain viable after losing a school (Bartling & Sybouts, 1989; Henderson & Gomez, 1975). Schools are critical to the social and economic viability of communities—each needs the other to survive and thrive. Integrating school and community development efforts should produce a synergistic effect. The isolation of many rural communities would appear to make such symbiosis and synergism even more pronounced and more critical.

A number of examples of applied research and development efforts support the notion that schools can play a vital part in community development. In particular, video documentary, *Plugging In*, (SEDL, 1995), documents stories of the real services students have provided to communities in studying real community problems and developing recommendations for real solutions. At the same time, this has produced empowered students who become eager and independent learners who know how to address a problem and who feel that they can make a difference. This reports provides baseline information to further develop and support the concept of the reciprocal benefits rural schools and communities can offer to each other. The integration of rural school and community development efforts seeks to positively affect the viability of both.

Advanced Telecommunications Technology

Rural schools have come to realize that through technology, they can enter the Information Age and maintain their autonomy and viability. Actually change, particularly technological change (in the form of a mechanical revolution) has been an integral part of rural life for many years and is now being replaced by a new revolution in information technology that is having a dramatic impact on rural life and rural well-being than anything before. With these advanced information technologies, rural schools and communities can tap into the same information and opportunities as schools and communities located in larger, more accessible areas. In particular advanced technologies are supporting and enhancing economic development. Rural districts and rural communities are becoming electronically linked to one another, sharing resources and expertise and supporting rural viability and economic development (Jolly in press).

A number of rural communities in the Southwestern Region have implemented telecommunications to support rural education and community services envisioning it as a means to secure the continuing viability of the rural lifestyle (Sullivan, Jolly & Foster, 1993). The recent growth of telecommunications technologies has been instrumental in making educational opportunities and social services available to rural communities. These services have been medical and EMS training; medical diagnosis and treatment regime; community planning and networking; professional training for firefighters, policemen, lawyers, and citizens interested in improving their professional status. As new technologies continue their rapid growth, costs continue to decline, and the infrastructure is put in place to support advanced telecommunications, high-tech accessibility to rural schools can be expected to increase dramatically.

While the promise of expanding course offerings through telecommunicated classes may further neutralize arguments for consolidation of rural districts (Sullivan, Jolly & Foster, 1993), this technology will also broaden opportunities for sharing and cooperating with other rural districts in various reorganizational arrangements. The very nature of the medium will ensure that rural districts, making use of new technologies, will be involved in cooperating with other districts or organizations. A number of researchers have studied cooperative arrangements involving telecommunicated education. Monk (1990) advises that cooperative arrangements involving telecommunicated distance education will require formal organizations because of the complexity of the programs and their resource requirements. Parker (1990) suggests the following twelve issues that need to be addressed by administrators who are considering distance education programs: extent of course offerings; selection of teachers for distance education delivery; teacher training; local control; classroom management; scheduling; levels of interaction; remote site visits by teachers; the "personal touch;" technical breakdowns; materials transfer; and class size. Jolly, Sullivan and Tompkins (1994) provide a guide piece for implementing advanced telecommunications technology in rural schools and communities.

Advanced telecommunications technologies now available to rural communities can offer a unique opportunity to reshape the educational environment, and can have a tremendous impact on the social and economic aspects of the rural community.

Change

A number of factors influence a rural school's ability to change. Factors such as size, policies, and resources all influence the context for change in rural schools. The small size of most rural schools and the closeness of the rural community shapes relations and influences how change is implemented.

Communication is more direct and the chances for grassroots improvement is greatly increased in rural schools because of size. Since innovation and change are most effective when implemented from the local level up, one school at a time, it would seem logical that rural schools often are at an advantage to implement change.

A recent synthesis of research on the implementation of innovations and the institutionalization of change identified factors that promote or hinder the implementation of innovation in rural schools. As reviewed in *Pulling Together: R & D Resources for Rural Schools* (1995) these factors include:

- Accessibility, Availability, and Adaptability

  Schools are more likely to implement change when they are able to experience the innovation and change in operation first hand. Due to their geographic isolation rural schools may not be able to visit schools implementing a similar change or innovation. Their isolation makes it difficult to collaborate with other schools and communities. Rural communities' long standing feelings of autonomy and sense of independence may impede change by creating another level of isolation.

- Relevance and Compatibility

  The change must respond to the needs of the school staff and fit with the school's organizational standards. Evidence that an innovation was field tested successfully is important and for rural schools evidence that the innovation was tested and "worked" in a similar rural setting is important.

- Quality

  Innovations and change are more credible if a large-scale dissemination endorses them. Such systems generally require developers to document the claims they make about their innovation with empirical data. This data must

include information gathered from rural settings instead of generalizing information to rural.

- Redundancy of Message

  Schools are more apt to adopt a change that they hear about from a variety of sources. Rural schools need additional assistance in accessing information about innovations because their isolation makes it difficult for them to access information about programs that might be available to them.

- Linkage Among Users

  Geographic isolation can pose a serious problem for rural schools as they seek to link up with other users of an innovation. For rural schools, these support systems linkages are vital as they must find ways to link with other users of the innovation.

- Engagement

  Schools are more likely to implement an innovation if large numbers of staff are involved and comfortable with the innovation and subsequent change. Rural schools must provide adequate staff development opportunities for staff to successfully implement the change.

- Sustained Interactivity

  Schools implementing an innovation should have ready access to technical assistance personnel who are knowledgeable about the innovation. The likelihood that an innovation will work appears to increase with the frequency of communications, before and after implementation, between school staff and technical assistance personnel. Such a school culture of ongoing staff development works to create continuous learning and improvement. Rural teachers, administrators, community leaders, and parents must all become "continuous communities of inquiry and learning."

Leadership

Leadership has been the focus of much research of late. However fewer number of studies have focused specifically on the rural leaders per say. In a five year study by Hord, Jolly & Mendez-Morse (1990), nine behaviors of successful rural leaders were identified. The nine categories are:

Communicates vision: The leader has a clear mental image of how the system can be different and declares and describes this picture to all constituents.

Provides resources: The leader manages budgets, buildings, buses, and all the logistical and material resources that support the educational enterprise.

Manages organizational structures: The leader is adept at organizational management and develops structures and processes that support personnel and improvement.

Develops caring climate: The leader works to bring the faculty together in harmony to address student learning, and engages in interaction with students to demonstrate that the administration cares about the progress of all students.

Supports staff's and students' efforts: The leader acknowledges and recognized the improvement activities undertaken in the school.

Reinforces staff's and students' efforts: The leader operates at a deeper level than that of supporting. The leader supplies rewards for instructional accomplishments.

Stimulates growth and development of staff: In contrast to responding to staff and student efforts, the leader initiates action or serves as a catalyst that promotes growth and learning of the staff.

Monitors staff's activities and evidence of change: The leader sets goals and objectives with staff, discusses the means by which to reach objectives, and monitors progress toward goal accomplishment.

Develops political bases and networks: The leaders' behaviors target political constituents both inside the district, and beyond to the professional organization level and state education department. These leaders develop relationships and structures with their school boards and key community players.

Issues related to school context were found to be especially important to rural leaders and many leaders were found to be creatures of their rural culture and history (Jolly, Hord & Vaughan, 1990). Roles models are difficult to find. The isolation of their schools not only impacted upon the leaders cultural growth but also upon their access to leadership ideas and implementation assistance. The findings of the two previous longitudinal studies (Hord et al, 1990; Jolly et al, 1990) formed the basis for the current research on the leadership aspect in this study.

Application of Social Capital Theory to School Reform and Community Development in Rural Areas

Coleman identifies three kinds of capital that are relevant to people and their communities: (1) financial capital, (2) human capital, which are skills and knowledge people possess, and (3) social capital, which describes organizational relationships that facilitate collective action within groups of people (Catterall, 1988). Social capital is not an individual possession but rather the network of relationships that a particular group of people are involved in. Positive relationships in these groups lead to trust, ease of communication, and shared norms and expectations. This results in a relatively predictable context in which people can function. Social capital could be held by any organization of people: a family, a school, a community.

According to Coleman's theory, community social capital can, to a significant degree, compensate for that missing in many homes. Although the applied research base on this theory is not well developed, information is mounting up that there are ways that schools and communities can consciously work toward building such social capital.

There is no doubt that across the nation, the family structure has changed. In the last two centuries, we have moved from a time when most fathers and mothers worked at home. As this agrarian society changed to an industrial one,

fathers moved out of the home to work, which resulted in reduced social capital. Now that more and more women have gone to work outside the home and there are more single parents, the social capital that the family unit has provided has in large part decreased again in most American homes. It should be understood, however, that family social capital is not represented by the mere presence of adults in the home. Communities and schools must recognize this change and respond to it. It requires the attention and involvement of the adults in the children's activities.

The Functional Community

When a community of families share expectations and norms, they tend to have organized experiences where the children come into frequent contact with other community adults. Coleman calls this phenomenon "intergenerational closure," and he has found that unusually strong social capital develops. He describes this type of community as a "functional community." Such functional communities may develop naturally, but there are many barriers today to prevent it.

It is the functional community that is theorized to make the difference between the effectiveness of many private schools as compared to public schools (Coleman and Hoffer, 1987). It would follow that if it were possible to consciously strategize to build a functional community around the school, that there can be benefits to both community and school. Given the reciprocal benefits to school and community, it seems that local policymakers, including educators, should make efforts to contribute to the building of social capital (Wehlage, 1992)

"The effectiveness of schools in settings where the social capital of family and community is weak depends upon the rebuilding of that social capital (Coleman, 1991, p. 14). This is not a job that schools can accomplish alone. However, evidence is mounting that this enormous task may be attacked through schools

working with other agencies. The New York State School Boards Association had enough confidence in Coleman's findings to launch a statewide effort to promote the idea to its school districts and communities.

Although most educators may agree that the goal of building social capital makes sense and is worthwhile, there is yet little guidance in the literature as to how this is to be accomplished. Much of the reporting of strategies to address the issue are anecdotal. It will take time to establish a strong research base on strategies that work. Coleman (1991, pp. 16-17) sets forth five principles that he believes are useful:

(1) Antagonistic and unpleasant contacts between school and parents are the result of passivity on the part of the school. If the school waits for parents to initiate contact, the contact is likely to be a problem, and potentially antagonistic.

(2) Most parents are occupied with other matters, and will not become actively involved with other parents unless that activity satisfies a particular interest.

(3) Relationships among parents, and between parents and the school, established for one purpose persist over time, and can be social capital available for other purposes. According to Coleman (1991), this has been extensively documented in social research on communities.

(4) Parents of teenagers and sub-teens have a strong interest in norms or standards of behavior and dress. However, they often lack the communication that gives knowledge about the standards on which a set of parents can agree. The school can in some cases overcome this lack through bringing parents together specifically on matters of dress, or rules about dating, parties, and nighttime hours.

(5) Certain barriers to parental involvement with schools can be overcome by modern technology.

Rural schools in many cases already enjoy high community social capital, and this may account for the effectiveness of these schools. However, other rural schools and communities have been long time sufferers of low human capital, low family social capital , and low community social capital. Within the last few decades, still other rural communities have been faced with economic decline and out-migration in addition to the same problems facing the rest of the country such as waning of the extended family and religious institutions and other community organizations, transience of families, decreasing amount of time families spend together, and the increasing isolation of individuals, which have all led to lower human and social capital. Often the sparsity of the population and long distances make it more difficult for rural people to be involved in their schools and communities.

On the other hand, community social capital may offset low family capital in rural districts because of several factors. The proximity of extended families may have a beneficial effect. Schools are usually smaller in rural areas. Smaller schools potentially increase the opportunity for participation in extra-curriculum activities, while enhancing student social integration and the formation of social capital. Informal social controls are thought to be stronger in rural communities

In 1991, Coleman suggested that modern technology can help overcome some of the barriers to parent involvement in schools. In the Infonet Program, there exists an electronic network with potential that goes far beyond what Coleman envisioned. The community members of the Infonet will acquire connectivity with the schools through electronic mail and fax machines as Coleman spoke of, but they will be connected through cable television, which could include public education, post secondary, and continuing education classes and lifelong learning classes. They can also be connected through taking such classes in the interactive classrooms.

Non metro areas continue to suffer a chronic deficity of human capital, especially in terms of completed education. The Infonet provides the opportunity for community members to take college courses without having to leave the community and without having to make long commutes. In addition, connectivity with each other within the network and with the rest of the world shows much potential for community economic development, which can lead to improved human capital and improved social capital.

Description of Site

In 1991, school districts in the service area covered by Central Texas Telephone Cooperative of Goldthwaite (CTTC) were approached by the telephone cooperative to see if they would become a partner with the school in bringing new technologies. Eight small, rural, poor school districts encompassing 3,000 square miles in Central Texas joined with CTTC. These eight districts known as INFONET are: Goldthwaite, Brady, Mullin, Priddy, Star, Rochelle, Lohn, and Cherokee, Texas. The network was developed based on an economic development study that showed that the schools were the largest employers in the area.

In 1993 the project received supportive funding through a Rural Electrification Association (REA) Distance Learning and Telemedicine grant providing much needed equipment. Partners in the effort are: CCTC, each school district, the Texas Rural Cooperative, and Central Texas Wireless. These partners are engaged in plans for the project that include: a wireless TV project to enable CTTC to form Central Texas Wireless TV and provide a new TV service, TVs and connections to the wireless service for each of the schools; a distance learning network linking the eight school districts. Other network plans include adding four more small school districts (Lometa, Evant, San Saba, and Richland Springs), adding access to the Internet, and integrating their interactive television networks with wireless cable television so that other community homes

SEDL

Figure 1

District Profile

	Median Housing Value	Per Capita Income	Above Poverty Level	Below Poverty Level
Brady	31,231	8,608	5,203	2,144
Cherokee	39,773	9,099	413	75
Goldthwaite	36,591	11,557	2,102	471
Lohn	32,778	7,107	222	86
Mullin	27,292	9,305	691	172
Priddy	18,929	8,657	353	145
Rochelle	71,842	11,648	824	138
Star	31,500	5,651	223	202

DVJ

BEST COPY AVAILABLE

04/02/96

SEDL

Figure 2

District Profile

	Total Persons	Rural Farm	Rural Non-Farm	H. S. Grad	Bach. Degree
Brady	7,547	189	1,421	1,461	644
Cherokee	532	20	512	121	28
Goldthwaite	2,750	195	2,555	585	243
Lohn	311	79	232	100	33
Mullin	916	166	750	246	66
Priddy	498	107	391	101	33
Rochelle	962	354	608	322	128
Star	425	96	329	98	76

DVJ

BEST COPY AVAILABLE

04/02/96

can be connected. Plans are being made to provide more training for users of the network. The major need is for teachers who are teaching on the network to receive training to enable them to teach comfortably and not be so concerned an involved with the technical and operational aspects of the equipment.

The Infonet Communities

Despite the fact that all of the school districts in the Infonet Project can be described as rural and small, the variations between the communities involved are testimony to the difficulty of classifying rural districts. They vary a great deal in size and wealth (Figures 1 & 2). However, size and wealth alone do not describe differences that will probably affect the potential development of each school and community. Community baseline information was collected using a framework from which profiles could be developed. The profiles address the following factors: population, geography, community economy, community services community organizations, other educational services, and recreational resources (Stephens in press). This information will be used to develop an understanding of the financial, human, and social capital currently available to each community.

While some of the school districts have an actual physical center or small town, others serve rural areas with no center. Following are descriptions of the eight communities.

Community C, a small town of about 2,000 people is the county seat. The superintendent describes the town as a clean, neat community where there is a lot of community pride. Activities center around the school, the churches, and community organizations. According to the superintendent there is a high level of support for the schools, even from senior citizens. The school district serves students from an area of 268 square miles, but most of the people live in the town. The largest employer in the area is the school district. The next largest is a company that sells mistletoe and supplies for dried floral arrangements.

However, the superintendent still considers the base of the economy to be ranching. Some people commute to a nearby town. Within the school district is a residential treatment center for emotionally disturbed children.

Community D is much more rural. About 40 percent of the people farm while about 60 percent are ranchers. According to the superintendent, the only other significant source of employment in the district is a Walmart. Mistletoe is also harvested in this community, but it is not a significant crop. Wheat is major crop for the area. Community organizations that provide opportunities for people to come together include churches, a community improvement association that has developed a park for the community, the volunteer fire department, and the Ladies Club. There is no health care in the area.

According to the superintendent in Community F, the area is not a city, a town, or a community. It is not incorporated and there are no population signs. There are approximately 400 people in the area. They are primarily a rural community with large farms, but some people commute to other towns in the area to work. One of the largest employers in the area is the school district. Community F also has a mistletoe industry. There are not a lot of church activities in this community. Activities that bring people together include reunions, volunteer fire department activities, and meetings regarding the water cooperative and the telephone company.

Community G is also not an incorporated town. According to the superintendent, the community is held together by common interests in the water cooperative. In fact, the superintendent of schools is also the president of the water cooperative. There are a few ranches in the area, and many of the parents of the school's students live and work on the ranches. Since cattle prices have declined, many people lease their ranch land to deer hunters which is the most economically feasible thing to do. Other people work in a manufacturing plant in

the area. Nearly 90 percent of the children in school participate in the free lunch program. However, the superintendent spoke of a high level of support in the community for the school. When a state agency audit group came to the school district, the citizens met with them and told them that they loved and supported the school and wanted to keep it there. The most important community organization in the area is the church. As the population in the area declined, all of the people joined a Baptist church. However, the superintendent said, that everyone clings to their own denomination. The community members reported do not discuss the church among themselves.

Although the superintendents spoke of decline in their communities, there were plentiful references to signs of growth and development. Nearly all spoke of students who leave to go to college and don't return. Yet there was also mention of new people moving into the area. Many are retired people returning to the place where they grew up, but there are also younger people seeking a better quality of life. Several superintendents mentioned the scenic beauty of the area. One of the primary barriers to growth and development in the immediate future is the lack of housing in area. It is also evident that the economy is tied very closely to the availability of water. Although there is reportedly an ample underground water supply, the infrastructures in the communities cannot support pumping larger amounts of water out of the ground.

The superintendents consistently expressed high hopes for what telecommunications can do for the area. All share a vision of survival of the communities and schools in the area, and much hope is placed on the Infonet project.

Research Design/Methodology

A qualitative design was used to identify and document the perspectives of teachers, students, administrators, and community members in school districts

involved in integrating school and community development efforts. This is the initial report describing the changes in the school districts over a five-year period of time and the benefits to school and community that can be attributed to the integration of development efforts. Data was derived from interviews, observations, and documents, where appropriate.

Data was collected through a semi-structured interview approach to assure substantive consistency over the project duration. Interview data was collected on-site and by telephone. All interviews were recorded and transcribed. Other documentation was collected as appropriate. To reduce threats to validity, the following procedures will be used:

- Internal validity was insured by defining researcher biases, triangulation, member checks, and peer examination.
- External validity was assured by providing thick, rich description so that others interested in the transferability of the study would have enough input to assess validity.
- Construct validity was protected through using multiple sources of data, establishing chain of evidence, and taking data and interpretations back to the people from whom they were derived and asking them if the results and information were correct.
- Reliability was increased through explanation of researcher assumptions and theory behind study, explanation for basis for selecting participants, and detailed description of audit trail.

All interviews, field notes, and other documentation were transcribed and submitted to qualitative data analysis through data coding, data reduction, data display, and conclusion drawing and verification as described by Miles and Huberman (1995). Code-and-retrieve software (HyperRESEARCH) was used to analyze textual data.

Initial Questions

1. In school districts in which school and community development efforts are integrated, what mutual benefits to school and community can be observed?
   - How has the community become involved in the school? What strategies have been tried to date specifically by the key leaders?
   - What barriers to integrating school and community development emerge. What facilitating factors emerge specifically on the part of local leaders?
2. What are staff/student concerns about change (i.e., the introduction of the telecommunications network and other technology to influence school and community development)?

THE FIRST YEAR OF INFONET

The Infonet was fully connected in January of 1995. Since that time, the schools and communities in the network have conducted an impressive array of activities. In addition to high school classes, the interactive classrooms have been used for staff and board training, community meetings, and continuing education classes. All of the schools have hosted visitors from other school districts both in and out of the state. Post-secondary staff have also visited.

Within a month of its completion, the Central Texas Community College began offering coursework through the Infonet program. The courses are offered for secondary students, but community people who wish to take the courses also sign up. The community college had offered courses to the communities before, but without the Infonet classrooms, it was seldom possible to make a class. Now with two or three people from each community signing up, this is less of a problem. During the 1995 summer session, 14 students who would have commuted to college were able to stay home and take undergraduate courses through the Infonet. Several women who worked in child care facilities were able to take required continuing education hours through the electronic network.

The interactive classrooms have allowed some of the districts to provide students courses that were not offered in their district. Sometimes single students participate in classes in other districts. During the 1995-96 school year, the largest district in the network has offered a full day of dual credit classes for any student in the network. In addition to broadening courses of study, the Infonet has offered flexibility in scheduling. In one district, four students were unable to schedule an English class because of schedule conflicts, but were able to take the course from another district. One superintendent has noted an increase in self-esteem among his students.

Prior to the Infonet, school board members had to travel 95 miles to receive required training. Now they take the classes from the interactive classrooms in their districts. The schools have also shared teacher inservices over the network.

One of the first offerings over the Infonet was a dedication ceremony in which area representatives and senators participated. Community members were invited to join the students in the schools for this ceremony. One superintendent spoke of opening lines of communication with their government representatives.

There are, of course, certain problems that have surfaced during the first year. All of the superintendents suddenly had to work together on course scheduling and school calendars. Most considered this a major barrier, but they have continually worked on resolving issues. For example, some of the schools are on block scheduling while others are not. Some of the school districts have had to use the interactive classroom for regular classes because of a shortage of space. One of the major issues the districts are facing currently is how to provide teacher training in the use of the equipment. They see two major training issues: (1) training in the actual operation of the equipment and (2) training in how to teach over the network and make all students feel that they are involved. Student evaluations of one class suggested that the teacher seldom acknowledged the

presence of the students who were participating in the class over the network. There may be a tendency for teachers to rely on lecturing too much because of the additional complications of setting up group experiences.

Findings

Since this is a work in progress report, all findings are a reflection of the initial findings of this study. Two other rural communities in the Southwestern Region will be added to the study in years' two and three adding to the richness of the data.

School Leaders

The school leaders that have to date had the most impact upon the initial stages of this project were the superintendents. All the superintendents are natives of Texas and most are native to the central Texas area. All received their formal education in the central Texas area and most have followed a career path of teacher/coach, middle administrator, superintendent. Three of the superintendents are relatively new having been superintendents in their district for less than two years replacing outgoing superintendents who decided to retire because of impending innovation (Figure 3).

The leaders studied in this initial examination follow the leadership model (nine behaviors of successful rural leaders) as set forth by Hord, Jolly & Mendez-Morse (1990) and mention previously in this paper.

Communicating a vision: These superintendents developed their role models for their jobs from either the communities they were born and raised in or from communities in very near proximity. Although these superintendents tend to emulate the behaviors from those before them, these superintendents were not afraid to grasp the magnitude of the innovation or to develop an in depth knowledge of the technicalities of the innovation. They developed a clear vision of

SEDL

Figure 3

Superintendent Career Profile

	Central Texas	Goldthwaite	Lohn	Pridday	Rochelle
Native of Area					
BS / Area College					
Teacher					
Coach					
Most or all Career in Area					
Masters / Education					
Superintendent years in District		15	1	12	2

DVJ

BEST COPY AVAILABLE

04/02/96

where the technology could take their district and communicated this vision to staff and the community.

Provides resources: Infonet leaders provided the necessary resources for the initial start-up of the project. They also sought and continue to seek additional funding (REA and additional state technology infrastructure dollars) to support expansion of the project.

Manages organizational structures: Although Infonet leaders are in the initial stages of installing the innovation (Infonet), they are already restructuring existing school structures to support the implementation of Infonet.

Develops a caring climate: These superintendents were most interested in implementing the change because they recognized the need to help their students; in other words their first implementation question was "what does this do for kids" and "how does this improve the school and the well being of the community?" They have a vision for what the innovation (Infonet) could do for their community and are trying to convey this vision to other involved individuals.

Supports and reinforces staff's and students' efforts: The superintendents in this effort have not only recognized staff but have provided the necessary "pressure and support" so needed in the initial stages of implementation of the innovation. Although still early in the process all leaders involved are keenly interested and predominately on the front lines of the implementation process.

Monitors staff's activities and evidence of change: One of the major reasons for "allowing a group of researchers into the Infonet circle" was the realization of certain leaders that involvement in the study would provide an opportunity for self reflection on the implementation of the Infonet and the change in general.

Develops political bases and networks: Infonet leaders continue to strengthen political ties by involving the support of local legislators. Infonet leaders have begun to realize that by strengthening existing local networks, they will ensure

the continuation of the project. Already they realize that they must collaborate with other rural entities to bring in the necessary extra monetary support needed to expand the effort.

The Consolidation Threat: Outside Impetus for Change

Although research shows no conclusive evidence that consolidation improves the quality of rural education or leads to significant financial efficiency (Jolly & Deloney, 1993), many states continue to enact legislation to force various forms of consolidation on rural schools. Consolidation has been a threat to the Infonet communities since the Gilmore-Akin Act in the early 40's. According to the superintendents, the primary reason for entering the Infonet project was a threat of consolidation. Thus the primary impetus for implementing the innovation came from an outside threat. The communities were pressuring the superintendents to find some way to "save the school" because community leaders felt that to close the school would be to destroy the community. Although actual physical consolidation will continue to be a threat and financing will continue to be a problem for these rural schools, the belief is that they will never completely consolidate but there will be a consolidation of ideas through "electronic consolidation" efforts.

Community Social Capital

Community social capital in the districts of the superintendents interviewed appeared to be higher than what would be expected based on the economic conditions in the area. All spoke of their community members' willingness to help when needed, although one superintendent spoke of the burden placed on the people who helped with school and volunteer activities because there were so few of them. There was an obvious awareness of the absolute necessity of involving community members and "bringing them along." It was also apparent that the superintendents were considered critical leaders in the communities. One of the

districts that has no actual town has a domino hall and an antique store where community members gather. While three of the superintendents spoke of the willingness of senior citizens to be involved in school affairs, one district's senior citizens did not appear to take as much interest in the schools. The communities where churches were central to community activities appeared to have closer ties than the one that did not. In summary, whether held together by church or water cooperative, three of the communities appear to have strong social networks, while one appears to have less of such a network. However, all of the communities appear to provide a relatively strong network of support around the schools. This would suggest the functional community that Coleman spoke of.

Instructional Staff Concerns Regarding Infonet

Instructional staff members in seven of the eight districts responded to a questionnaire designed to describe what kinds of concerns they were experiencing about using the Infonet. The Stages of Concerns Questionnaire (SoCQ) is based on change theory developed and validated by researchers at the Research and Development Center for Teacher Education, The University of Texas at Austin. The theory suggests that individuals go through seven stages of concern and though not always sequential or discrete, earlier levels of the concerns generally need to be resolved before users will have higher levels of concern (Hall, George, A., & Rutherford, Q., 1986). The seven stages are: awareness, informational, personal, management, consequence, collaboration, and refocusing. The SoCQ also provides an indication of how involved staff members are in an innovation such a Infonet. The SOCQ consists of 35 iteems answered on a Likert scale ranging from 0 to 7. The 35 items contain five statements related to each of the seven Stages of Concern. Hall, George, and Rutherford (1986) report on the validity and reliability of the SoCQ. "Estimates of internal consistency (alpha coefficients) range from .64 to .83 with six of the seven coefficients being above .70.

A series of validity studies was conducted, all of which provided increased confidence that the SoC Questionnaire measures the hypothesized Stages of Concern" (p. 20).

While six of the district superintendents asked all of their instructional staff to respond to the questionnaire, one chose to ask only high school staff to participate. Profiles were developed for individuals, elementary school staff, secondary school staff, entire districts, and all of the Infonet (Figure 4) districts together. This questionnaire will be used each year of the study to gauge relative movement in the change process.

All of the districts except one revealed remarkable consistency in their concerns with only a few variations. The N (5) of the district that did not produce an interpretable profile was most likely too small. The profile for the entire network suggests a classic group of primarily non-users with yet little involvement with the innovation. However, a relatively high number of information concerns indicate that a significant number of staff are ready for more descriptive information and perhaps more exposure to the Infonet in a non-threatening manner. The third highest frequency on the profile was that of personal concerns. This shows uncertainties about the Infonet program or concerns about status, reward, and potential effects on the respondent as an individual. Generally, these personal concerns need to be addressed before the group will be able to look at the Infonet program objectively. Concerns beyond management of the Infonet (consequences for students, collaboration, and refocusing) were generally of low intensity, as would be expected. The individual district profiles generally showed the same trends as the group profiles with variations in personnel and management concerns. Several of the individual profiles suggested non users who may be resistant to the Infonet program.

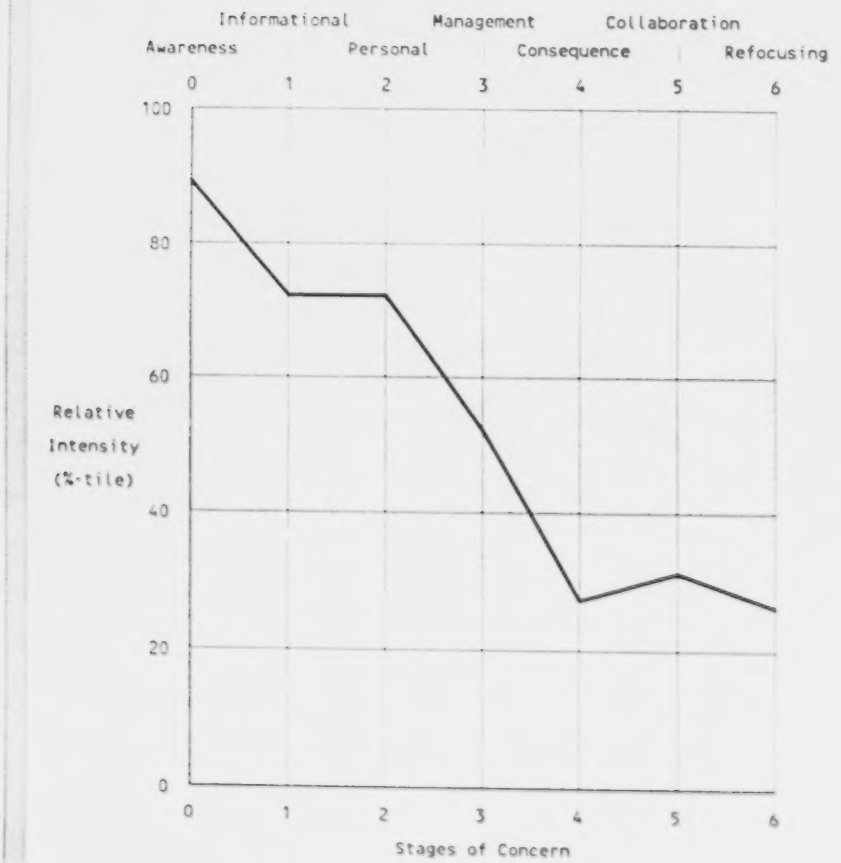
Stage of Concerns Questionnaire Scores

Group Profile N = 123

Total Group Profile

Stages	0	1	2	3	4	5	6
			Group Frequencies				
Highest Stage	77	19	14	4	0	9	0
2nd Highest Stage	13	49	40	13	3	2	3
			Group Scores				
Stage Scores	13	20	20	14	19	16	11
Percentile Scores	89	72	72	52	27	31	26

Stage of Concerns Profile



3/14/96

Copyright, 1990-96
Concerns Based Systems International

STD Norms

BEST COPY AVAILABLE

Summary/Future Work

Research on social capital and functional communities provides much needed information on the relationship between rural schools, their communities, and consequently their economic viability. Past research on school closings for reasons such as consolidation suggests that many small rural communities have failed to remain viable after losing a part of their community ...a school (Bartling and Sybouts, 1989). Schools are critical to the social and economic viability of rural communities.

The Infonet Project is the first of three such case studies in the Southwestern Region that looks at technology and how it supports rural economic development. Although this report is the initial findings of only one site, it is becoming clear that social capital and functional communities create a symbiotic relationship between a school and a community...each needs the other ``to survive and thrive. This points further to the idea that integrating school and community development efforts will produce a synergistic effect. The isolation of many rural communities would appear to make such symbiosis and synergism even more pronounced and more critical.

References

Bartling, D. & Sybouts, W. (1989). Rural school board presidents look at school reorganization. *The Rural Educator, 11*(1), 4-7.

Caplan, N., Choy, M.H., and Whitmore, J.K. (1992). Indochinese refugee families and academic achievement. *Scientific American 266*, 36-42.

Catterall, J.S. (1988). *Social Capital and the Improvement of Instruction.* Report prepared with the assistance of David Moody for Commission on Public School Administration and Leadership, Association of California School Administrators.

Coleman, J.S. (1988). *Social capital in the development of human capital: The ambiguous position of private schools.* Paper presented at the Annual Conference of the National Association of Independent Schools, New York.

Coleman, J.S. (1991). *Parental Involvement in Education: Policy Perspectives Series.* Washington, DC: Superintendent of Documents, U.S. Government Printing Office (Stock No. 065-000-00459-3). (ERIC Document Reproduction Service No. ED 334 028).

Coleman, J.S. & Hoffer, T. (1987). *Public and private high schools: The impact of communities*, New York: Basic Books, Inc.

Ferguson, R.F. (1991). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation, 28* (2), 466-496.

Hall, G.E., George, A.A. & Rutherford, W.A. (1986). *Measuring Stages of Concern About the Innovation: A Manual for Use of the SoC Questionnaire.* Research and Development Center for Teacher Education The University of Texas at Austin.

Henderson, R.D. & Gomez, J.J. (1975). *The consolidation of rural schools: Reasons, results, and implications - a preliminary investigation.* Paper presented at the annual meeting of the Rural Sociological Society, San Francisco. (ERIC Document Reproduction Service No. ED 111578).

Hobbs, D. (1989). *Economic development: The rural experience.* Paper presented at the Education and Economic Development Forum, Las Cruces, NM.

Hord, S, Jolly, D.V., & Mendez-Morse (1990). *The Superintendent's Leadership in School Improvement: A Rural Perspective.* Southwest Educational Development Laboratory: Austin, TX.

Huang, G. & Howley, C. (1991). *Recent trends in rural poverty: A summary for educators.* Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. (ERIC Document Reproduction Service No. ED 335180).

Jolly, D.V. & Deloney, P. (1993). *Alternative Organizational Plans: Options for Consideration.* Southwest Educational Development Laboratory. Austin Texas.

Jolly, D.V., Hord, S. & Vaughan, M. (1990). *Developing Indicators of Educational Success: The Road to Improvement in Five Schools.* Paper presented at the Annual Meeting of the American Educational Research Association. Boston: MA

Jolly, D.V., Sullivan, M. & Tompkins, R. (1994). *Supporting the Rural Community: Interagency Collaboration through Advanced Telecommunications.* Paper presented at the Annual Meeting of the American Educational Research Association. New Orleans: LA.

Lichter, D.T., Cornwell, G.T., & Eggebeen, D.J. (1993). Harvesting human capital: Family structure and education among rural youth. *Rural Sociology, 58*(1), pp. 53-75.

Mazie, S.M. (Ed.). (1990). *Rural Conditions and Trends.* Washington, D.C.: United States Department of Agriculture, Economic Research Service. (ERIC Document Reproduction Service No. ED 324 188).

Monk, D.H. (1990). *The organization and reorganization of small rural schools. Rural Education,* 177-201.

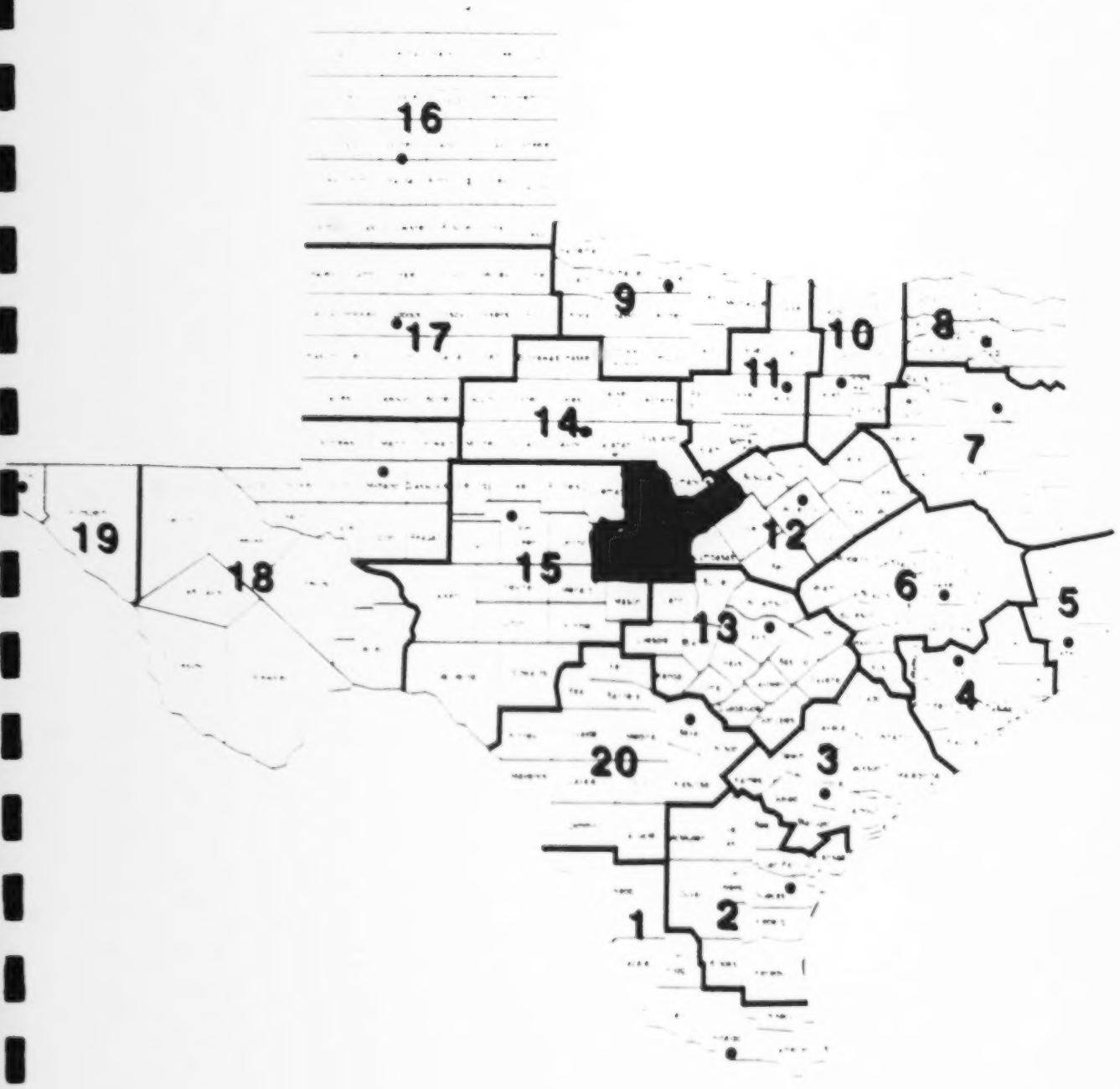
Plugging In: Technology in Rural Schools. (1995). Southwest Educational Development Laboratory, Austin: TX.

Pulling Together: R & D Resources for Rural Schools (1995). National Network of Regional Educational Laboratories. Washington D.C.

Smith, M.H., Beaulieu, L.J., & Israel, G. D. (1991) *Effects of human capital and social capital on dropping out of high school in the South.* Paper presented at the Southern Association of Agricultural Scientists, Fort Worth, TX.

Sullivan, M., Jolly, D.V. & Foster, D. (1993). *The Genesis of Two-Way Interactive Video and Audio for Teaching Students in Rural, Small Schools: A Model for Implementation.* Paper presented at the Annual Meeting of the American Educational Research Association. Atlanta: GA.

Wehlage, G.G. in Prager, K. (1993). Social Capital: The Foundation for Education. *Issues in Restructuring Schools*; no. 5, Fall 1993.



BEST COPY AVAILABLE